

Serial No.: 09/871,118
Amendment dated 20 August 2004
Reply to Office Action mailed 20 May 2004

Docket No.: KCC-14,859

REMARKS

This application has been reconsidered carefully in light of the Office Action dated as mailed on 20 May 2004. A careful reconsideration of the application by the Examiner in light of the foregoing amendments and the following remarks is respectfully requested.

This response is timely filed as it is filed within the three (3) month shortened statutory period for response to the outstanding Office Action.

There is no additional claim fee due for this Amendment because the total number of claims does not exceed the number of independent and dependent claims for which fees have previously been paid.

Amendments to the Claims

By the above Amendment, independent claims 1, 5, 6, 24 and 27 have been amended to include the limitation that the composite material has *a pore size gradient in a z-direction wherein the first layer moves in a plane generally perpendicular to the composite material to form a plurality of fiber loop pores and the second layer forms a plurality of pores smaller than the fiber loop pores*. This amendment is fully supported throughout Applicants' specification, for example at page 22, line 5 through page 23, line 10.

Applicants have canceled Claims 12, 13 and 15-23.

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Request For Telephone Interview

Applicants' undersigned attorney requests a telephone interview with the Examiner. The undersigned requests this interview if the amendments and arguments are not deemed sufficient to place the application in condition for allowance. If the Examiner feels the claims are not allowable for any reason, then please telephone the undersigned, Eric T. Krischke, at 847.490.1400.

Claim Rejections - 35 U.S.C. § 102(b)

Claims 1, 4-8, 16 and 24-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,925,1327 ("Yoshioka"). This rejection is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Yoshioka discloses a bulky paper prepared by inserting a plastic film between a pair of crepe papers and passing the assembly through a nip formed between a pair of heated embossing rolls to cause a partial adhesion of the plastic film with the crepe papers. The bulkiness of the paper is achieved by supplying moisture to the paper layers and/or heat shrinking the plastic film.

For a reference to anticipate a claim, the reference must disclose each and every element or limitation of the claim. Yoshioka does not disclose each and every element or limitation of independent Claims 1, 5, 6, 24 and 27. Applicants'

claimed invention is a method for producing a structured composite material for accommodating passage of fluids through the structured composite material, wherein at least one of the first layer and the second layer shrinks to produce the composite material having *a pore size gradient in a z-direction wherein the first layer moves in a plane generally perpendicular to the composite material to form a plurality of fiber loop pores and the second layer forms a plurality of pores smaller than the fiber loop pores*. In contrast, Yoshioka discloses a bulky paper that may absorb fluids, but the bulky paper does not accommodate the passage of fluids through the bulky paper. Yoshioka does not teach or suggest forming a composite material having a first layer comprising a plurality of fiber loop pores and a second layer forming a plurality of pores smaller than the fiber loop pores.

For at least these reasons, Applicants submit that Claims 1, 5, 6, 24 and 27 are not anticipated by Yoshioka. Because Claims 4, 7 and 8 depend from Claim 1, and Claims 25, 26, 28 and 29 depend from Claim 24, these claims are also not anticipated by Yoshioka. Thus, Applicants respectfully request withdrawal of this rejection.

Claims 1, 4 and 24-26 were rejected under 35 U.S.C. § 102(b) as being anticipated by European Patent 0 687 757 (“Srinivasan et al.”). This rejection is respectfully traversed, particularly in view of the above Amendment and the following

remarks.

Srinivasan et al. discloses a process for producing an apertured nonwoven fabric wherein heat and pressure are applied through a calendar roll such that the polymeric material becomes bonded to the fibers of the nonwoven layer and shrinks and takes back the fibers away from the calendaring points, thereby generating apertures through the nonwoven fabric.

Srinivasan et al. does not disclose each and every element or limitation of independent Claims 1 and 24. Applicants' claimed invention is a method for producing a structured composite material for accommodating passage of fluids through the structured composite material, wherein at least one of the first layer and the second layer shrinks to produce the composite material having *a pore size gradient in a z-direction wherein the first layer moves in a plane generally perpendicular to the composite material to form a plurality of fiber loop pores and the second layer forms a plurality of pores smaller than the fiber loop pores.*

In contrast, Srinivasan et al. discloses a nonwoven product wherein heat and pressure are applied to layers as the layers move through a nip formed between heated rolls. Srinivasan et al. does not teach or suggest forming a composite material having a first layer comprising a plurality of fiber loop pores and a second layer forming a plurality of pores smaller than the fiber loop pores. Further, the nonwoven

fabric disclosed in Srinivasan et al. does not provide a pore size gradient through the nonwoven fabric because the nonwoven layer is not free to move in a plane generally perpendicular to the nonwoven fabric due to the pressure applied to the layers as the layers pass between the heated rolls.

For at least these reasons, Applicants submit that Claims 1 and 24 are not anticipated by Srinivasan et al. Because Claim 4 depends from Claim 1, and Claims 25 and 26 depend from Claim 24, these claims are also not anticipated by Srinivasan et al. Thus, Applicants respectfully request withdrawal of this rejection.

Claims 5, 16, 19, 21 and 27 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 3,597,299 (“Thomas et al.”). This rejection is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Applicants amended independent Claims 5 and 27 to require that the second layers comprises a film. Applicants have canceled Claims 16 and 19.

Thomas et al. discloses a scrim adhesively bonded to a cellulose wadding layer. The wadding layer is creped prior to plying up with the scrim. The composite is hot calendered by conventional procedures to soften the adhesive and press the adhesive coated scrim threads to the wadding. Such action tends to press out and stretch the wadding so that the composite becomes relatively stiff and smooth

surfaced. Thomas et al. does not disclose a method for producing a structured composite material, wherein a first layer having a first shrinkage extent is bonded to a second layer comprising a film having a second shrinkage extent different from the first shrinkage extent, and at least one of the first layer and the second layer shrinks to produce the structured composite material, as required by Applicants' claimed invention. Further, Thomas et al. does not disclose heating a composite material to form a structured composite material having a first layer comprising a plurality of fiber loop pores and a second layer forming a plurality of pores smaller than the fiber loop pores.

For at least these reasons, Applicants submit that Claims 1 and 24 are not anticipated by Thomas et al. Because Claims 4 and 7 depend from Claim 1, and Claims 25, 26 and 29 depend from Claim 24, these claims are also not anticipated by Thomas et al. Thus, Applicants respectfully request withdrawal of this rejection.

Claims 5, 16, 19 and 27 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,491,777 ("Bevins, III et al."). This rejection is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Applicants amended independent Claims 5 and 27 to require that the second layers comprises a film. Applicants have canceled Claims 16 and 19.

Bevins, III et al. discloses a method for forming a composite material having a first nonwoven spunbond layer and a second nonwoven spunbond layer deposited on the first layer. Bevins, III et al. does not disclose a method for producing a structured composite material, wherein a first layer comprising a nonwoven web having a first shrinkage extent is bonded to a second layer comprising a film having a second shrinkage extent different from the first shrinkage extent, and at least one of the first layer and the second layer shrinks to produce the structured composite material, as required by Applicants' claimed invention.

For at least these reasons, Applicants submit that Claims 1 and 24 are not anticipated by Bevins, III et al. Because Claims 4 and 7 depend from Claim 1, and Claims 25 and 26 depend from Claim 24, these claims are also not anticipated by Bevins, III et al. Thus, Applicants respectfully request withdrawal of this rejection.

Claim Rejections - 35 U.S.C. § 103(a)

Claims 2, 3, 9, 10, 12, 13, 15 and 17-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshioka as applied to Claims 1, 6 and 16 above. This rejection is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Claims 2, 3, 9 and 10 ultimately depend from and further limit independent Claim 1, which Applicants believe is patentable for at least the reasons

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presented above. Claims 12, 13, 15 and 17-19 have been canceled. Thus, Applicants respectfully request withdrawal of this rejection.

Claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Srinivasan et al. as applied to Claim 1 above. This rejection is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Claims 2 and 3 depend from and further limit independent Claim 1, which Applicants believe is patentable for at least the reasons presented above. Thus, Applicants respectfully request withdrawal of this rejection.

Claim 17 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Thomas et al. as applied to Claim 16 above. Applicants have canceled Claim 17, thus rendering this rejection moot.

Claims 18, 20, 22 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Thomas et al. as applied to Claim 16 above and further in view of U.S. Patent 5,789,328 (“Pike et al.”). Applicants have canceled Claims 18, 20, 22 and 23, thus rendering this rejection moot.

Claim 17 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bevins et al. as applied to Claim 16 above. Applicants have canceled Claim 17, thus rendering this rejection moot.

Claim 18 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bevins et al. as applied to Claim 16 above and further in view of European Patent 0 586 924 (“Pike et al.”). Applicants have canceled Claim 18, thus rendering this rejection moot.

Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bevins et al. as applied to Claim 27 above and further in view of U.S. Patent 5,789,328 (“Kurihara et al.”). This rejection is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Claim 28 depends from and further limits independent Claim 24, which Applicants believe is patentable for at least the reasons presented above. Thus, Applicants respectfully request withdrawal of this rejection.

Claim 29 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bevins et al. as applied to Claim 27 above and further in view of U.S. Patent 5,491,016 (“Kaiser et al.”). This rejection is respectfully traversed, particularly in view of the above Amendment and the following remarks.

Claim 29 depends from and further limits independent Claim 24, which Applicants believe is patentable for at least the reasons presented above. Thus, Applicants respectfully request withdrawal of this rejection.

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CONCLUSION

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants have not addressed in this response, Applicants' undersigned attorney requests a telephone interview with the Examiner.

Applicants believe that the claims, as now presented, are in condition for allowance and, thus, respectfully request early allowance.

Respectfully submitted,



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